

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A modular plastic floor assembly formed from a plurality of shaped tiles and a plurality of shaped connector tiles, the shaped tiles being substantially larger than the shaped connector tiles and the shaped connector tiles being adapted to fit into interstices between the shaped tiles when the floor assembly is formed, each of the shaped tiles and the shaped connector tiles including a body having a substantially planar upper surface and a support array extending from a lower surface of the body, the support array being integrally formed with the body and comprising items having a common length such that their lower ends define a floor engaging plane, the shaped tiles having only a plurality of first connector means and the shaped connector tiles having only a plurality of complementary second type connector means, the first and second type connector means adapted to interengage to interlock the shaped tiles to adjacent shaped connector tiles.
2. A modular plastic floor assembly as in Claim 1 wherein the first and second type connector means are formed so that the shaped tiles and shaped connector tiles are spaced apart by a distance of from 1 to 2 mm to take up shock load and thermal expansion and contraction.
3. A modular plastic floor assembly as in Claim 1 further including resiliently loaded fingers extending laterally from the shaped connector tiles to space the shaped tiles and shaped connector tiles apart.
4. A modular plastic floor assembly as in Claim 3 wherein the resiliently loaded fingers include integrally moulding plastic springs.
5. A modular plastic floor assembly as in Claim 1 further including resiliently loaded fingers extending laterally from the shaped tiles to space the shaped tiles and shaped connector tiles apart.
6. A modular plastic floor assembly as in Claim 5 wherein the resiliently loaded fingers include integrally moulding plastic springs.

7. A modular plastic floor assembly as in Claim 1 wherein the support array includes a plurality of separated support walls.

8. A modular plastic floor assembly as in Claim 1 further including a plurality of reinforcing structures under the body integrally formed with the body and being of lesser height than the common length and joining to the items having a common length.

9. A modular plastic floor assembly as in Claim 8 wherein the reinforcing structures are squat cylinders or bosses.

10. A modular plastic floor assembly as in any one preceding claim wherein the shaped tiles are formed in a shape selected from circular, octagonal, dodecagon shaped, triangular hexagon or other convenient shapes.

11. A modular plastic floor assembly as in any one preceding claim wherein the shaped connector tiles are formed in a shape selected from circular, octagonal, dodecagons, triangles or hexagons or the like to fit into spaces between the shaped tiles.

12. A modular plastic floor assembly as in any one preceding claim wherein the sides of the shaped tiles are formed in a shape selected convex, straight or concave and the sides of the shaped connector tiles are correspondingly concave, straight or convex.

13. A modular plastic floor assembly as in any one preceding claim wherein the body has apertures through it to allow water to drain off the upper surface.

14. A modular plastic floor assembly as in any one preceding claim wherein each tile has a perimeter wall extending to the floor engaging plane to provide good support around the edge of the tile.

15. A modular plastic floor assembly as in Claim 14 wherein the perimeter walls include gaps to allow water drainage beneath the tiles.

24. A modular plastic floor assembly as in any one preceding claim wherein the substantially planar upper surface includes a surface film provided by in-mould decoration to provide a surface with changed appearance, frictional properties and/or surface hardness.

5 25. A modular plastic main floor tile adapted for use with a substantially smaller connector tile, the main tile including a body having a substantially planar upper surface and a support array extending from a lower surface of the body, the support array being integrally formed with the body and comprising items having a common length such that their lower ends define a floor engaging plane, the main tile having a plurality of only female
10 connector means adapted to connect with male connector means on an adjacent connector tile.

26. A modular plastic main floor tile as in Claim 25 wherein the female connector comprises an arcuate recess.

15

27. A modular plastic main floor tile as in Claim 25 wherein the arcuate recess includes catch means or tabs to provide positive retention of the male connector.

28. A modular plastic main floor tile as in Claim 25 further including resiliently loaded
20 fingers extending laterally from the tile to space the tiles from an adjacent connector tile.

29. A modular plastic main floor tile as in Claim 25 wherein the support array includes a plurality of separated support walls.

25 30. A modular plastic main floor tile as in Claim 25 wherein the tile is formed in a shape selected from circular, octagonal, dodecagon shaped, triangular hexagon or other convenient shapes.

31. A modular plastic main floor tile as in Claim 25 wherein the support array includes a
30 plurality of separated support walls composed of two materials, one material providing a rigid structural component of the tiles and the other material providing a shock absorbent element and being the portion which defines the floor engaging plane.

32. A modular plastic main floor tile as in Claim 25 wherein the substantially planar upper surface includes a surface film provided by in-mould decoration to provide a surface with changed appearance, frictional properties and/or surface hardness.

5 33. A modular plastic floor connector tile adapted for use with a substantially larger main tile, the connector tile including a body having a substantially planar upper surface and a support array extending from a lower surface of the body, the support array being integrally formed with the body and comprising items having a common length such that their lower ends define a floor engaging plane, the connector tile having a plurality of only
10 male connector means adapted to connect with female connector means on an adjacent main tile.

34. A modular plastic floor connector tile as in Claim 33 wherein the male connector means include a loop adapted to engage in a female arcuate recesses in the underside of the
15 main tile.

35. A modular plastic floor connector tile as in Claim 33 further including resiliently loaded fingers extending laterally from the tile to space the connector tile from an adjacent main tile.
20

36. A modular plastic floor connector tile as in Claim 33 wherein the support array includes a plurality of separated support walls.

37. A modular plastic floor connector tile as in Claim 33 wherein the connector tile is
25 formed in a shape selected from circular, octagonal, dodecagon, triangle or hexagon or the like to fit into spaces between the main tiles.

38. A modular plastic floor connector tile as in Claim 33 wherein the support array includes a plurality of separated support walls composed of two materials, one material
30 providing a rigid structural component of the tiles and the other material providing a shock absorbent element and being the portion which defines the floor engaging plane.

39. A modular plastic floor connector tile as in Claim 33 wherein the substantially planar upper surface includes a surface film provided by in-mould decoration to provide a surface with changed appearance, frictional properties and/or surface hardness.